

**Notice of Allowability**

Application No.	Applicant(s)	
10/699,284	WORLEDGE, DANIEL C.	
Examiner	Art Unit	
Thinh T. Nguyen	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 10/14/2005.
2.  The allowed claim(s) is/are 1-17 and 19-25.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some\*    c)  None    of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  
(a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached  
    1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.  
(b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of  
    Paper No./Mail Date \_\_\_\_\_.  
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
    Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
    of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
    Paper No./Mail Date \_\_\_\_\_
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

  
David Nelms  
Supervisory Patent Examiner  
Technology Center 2800

## **DETAILED ACTION**

### **Examiner's Amendment.**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

A/ Amends claim 19 line 1:

From -- “The Device of **claim 18**” – To: -- The Device of **Claim 1** – since claim 18 is cancelled by the Applicant.

B/ Changes the title to:

*✓* **--TECHNIQUES FOR COUPLING IN SEMICONDUCTOR DEVICES AND  
MAGNETIC DEVICE USING THESE TECHNIQUES--**

**Reason for allowance**

2. Claims 1-17,19-25 are allowed. The following is an examiner's statement of reason for allowance:

**I/ Group I: Claims 1-17,20-21.**

Claims 1-17,20-21 are allowed because none of the references of record teaches or suggests the claimed **--TECHNIQUES FOR COUPLING IN SEMICONDUCTOR DEVICES AND MAGNETIC DEVICE USING THESE TECHNIQUES**— having the limitations:

-- “a spacer layer formed between the magnetic layers, the spacer layer being configured to provide ferromagnetic exchange coupling between the layers, the magnetic layers experiencing anti-ferromagnetic dipole coupling, such that a net coupling of the magnetic layers are anti-ferromagnetic in a zero applied magnetic field. wherein the spacer layer comprises a weak ferromagnet. “-- and all other limitations as recited in claim 1.

**II/ Group II: Claims 22-25.**

Claims 1-17,20-21 are allowed because none of the references of record teaches or suggests the claimed **--TECHNIQUES FOR COUPLING IN SEMICONDUCTOR DEVICES AND MAGNETIC DEVICE USING THESE TECHNIQUES**— having the limitations:

-- “the method comprising the step of providing ferromagnetic exchange

coupling of the magnetic layers, the magnetic layers experiencing anti-ferromagnetic dipole coupling, such that a net coupling of the magnetic layers is anti-ferromagnetic in a zero applied magnetic field. wherein the spacer layer comprises a weak ferromagnet.. “-- and all other limitations as recited in claim 22.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance”.

### **Conclusion**

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thinh T Nguyen whose telephone number is 571-272-1790. The examiner can normally be reached on Monday-Friday 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached at 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval [ PAIR ] system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)

Thinh T Nguyen

TTN

Art unit 2818

  
David Nelms  
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